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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TAKEUCHI, YOSHITOSHI

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,920	Applicant(s) HAYNES ET AL.	
	Examiner YOSHITOSHI TAKEUCHI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-44 and 46-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-27, 30, 43-44 and 46-50 is/are rejected.
- 7) ☒ Claim(s) 28-29 and 31-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 25- 44 and 46-50 are presented for examination, wherein claim 25 is amended.

Claims 1-24 and 45 are cancelled.

2. The 35 U.S.C. § 103(a) rejections of claims 28-29 and 31-42 are withdrawn as a result of the applicants' arguments.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 25-26, 43-44, 46 and 50 are rejected under 35 U.S.C. 102(b) as anticipated by Muskett (US 6,255,527).

Regarding claims **25-26, 43-44, 46 and 50**, Muskett teaches a continuous process for the production of acetic acid comprising reacting with carbon monoxide, methanol or a reactive derivative thereof in a liquid reaction composition comprising methyl acetate, a finite concentration of water (abstract), acetic acid (1:67) and a catalyst system (abstract), which catalyst system comprises an Group VIII noble metal carbonylation catalyst (abstract and 4:21-22, where iridium is a Group VIII metal), methyl iodide co-catalyst, and at least one non-hydrohalogenoic oxoacid promoter (1:60-67, wherein acetic acid, an oxoacid, is present as a “remainder” during the continuous operation and is expected to have a promotional effect since it is required in the operation of the reaction) and optionally one or more of ruthenium, osmium,

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rhodium, zinc, gallium, tungsten, cadmium, and mercury (4:59-60, as promoters), and a methyl acetate concentration of less than about 6% w/w, which is within the instantly claimed range (2:7).

5. Claims 25-26, 43-44, 46 and 50 are also rejected under 35 U.S.C. 102(b) as anticipated by Watson et al (US 5,831,120).

Regarding claims **25-26, 43-44, 46 and 50**, Watson teaches a continuous process (1:8) for the production of acetic acid (abstract) comprising reacting with carbon monoxide, methanol or a reactive derivative thereof in a liquid reaction composition comprising methyl acetate, a finite concentration of water, acetic acid and a catalyst system (3:23-31), which catalyst system comprises an iridium carbonylation catalyst (6:29-30), methyl iodide co-catalyst (9:64), and acetic acid (3:23-31, wherein acetic acid, an oxoacid, is expected to have a promotional effect since it is required in the operation of the reaction), and optionally one or more promoters selected from the group consisting of ruthenium, osmium, rhodium, mercury, zinc, gallium, and tungsten (9:63-66), and a methyl acetate concentration of up to 5 wt%, which is within the instantly claimed range (6:50-51).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 27, 30 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muskett (US 6,255,527).

a. Regarding claims **27** and **30**, Muskett teaches the method of claim 26, wherein acetic acid (oxoacid) is present as a “remainder” (1:60-67), but does not expressly teach the molar ratio of acetic acid anion to iridium is in the range greater than 0 to 0.4:1.

However, the composition is at least 5 wt%, typically 8 wt% methyl acetate, from 0.1 to 30 wt% water, from 1 to 30 wt% methyl iodide and the remainder being acetic acid (3:64-67 and 4:15-16). As a result, it would be expected that the acetic acid anion to iridium is in the range greater than 0 0.4:1.

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b. Regarding claims **47-49**, Muskett teaches the method of claim 25, wherein Muskett teaches the methyl acetate concentration is less than about 6% w/w, which is within the instantly claimed range (2:7) and water concentration of 0.1-30 wt%, which is within the instantly claimed range (4:15-16). Where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. In re Wertheim, 541 F.2d 257 (CCPA 1976). See MPEP § 2144.05.

10. Claims 27, 30 and 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watson et al (US 5,831,120).

Regarding claims **27** and **30**, Watson teaches the method of claim 26, wherein acetic acid (oxoacid) is present (3:23-31), but does not expressly teach the molar ratio of acetic acid anion to iridium is in the range greater than 0 to 0.4:1. However, the composition comprises 100-6,000 ppm iridium, 1 to 20 wt% methyl iodide, 1 to 15 wt% water, 1 to 70 wt% methyl acetate and the remainder acetic acid. As a result, it would be expected that the acetic acid anion to iridium is in the range greater than 0 0.4:1.

Regarding claim **47**, Watson teaches methyl acetate concentration of up to 5 wt%, which is within the instantly claimed range (6:50-51), rendering the instant claim obvious for the same reason provided *supra*.

Allowable Subject Matter

11. Claims 28-29 and 31-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSHITOSHI TAKEUCHI whose telephone number is (571) 270-5828. The examiner can normally be reached on Monday-Thursday 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Roy King/
Supervisory Patent Examiner, Art Unit
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/YOSHITOSHI TAKEUCHI/
Examiner, Art Unit 1793